

ABSTRACT

An improved structure of a gas sensor is provided which may be employed in an oxygen measuring device of an air-fuel ratio control system measuring an oxygen content in exhaust gasses of an internal combustion engine of automotive vehicles. The gas sensor includes a sensing unit which is disposed in a housing and has defined in an end portion thereof a reference gas chamber to be filled with a reference gas used in determining a given gas component content in gasses, a metallic cover installed on the housing to cover the other end portion of the sensing unit; and a cylindrical insulation porcelain disposed in the metallic cover. The insulation porcelain has a groove formed on an outer peripheral wall thereof to define a portion of a reference gas passage communicating between an air inlet formed in the metallic cover and the reference gas chamber. The outer peripheral wall is substantially circular in cross section for avoiding the deformation of the insulation porcelain arising in compressing a material of the insulation porcelain such as ceramic powder during a manufacturing process.